WHAT IS CLAIMED IS:

1. A heat engine for converting thermal energy into kinetic energy, comprising:

a structure capable of rotating about a center axis;

a non-rotating element, positioned within said structure and having a substantially smooth and circular outer surface, the center of said non-rotating element offset from said center axis and fixed in position relative to said center axis;

a plurality of working chambers evenly distributed about the perimeter of said structure, each of said plurality of working chambers containing substantially equal amounts of working fluid;

a plurality of cylinders, each of said plurality of cylinders in fluid communication with one of said plurality of working chambers, each of said plurality of cylinders radially positioned about said axis;

a plurality of pistons, each of said plurality of pistons comprising a working end and a rolling end, each working end of said plurality of pistons in mechanical communication with one of said plurality of cylinders and each rolling end of said plurality of pistons biased against said non-rotating element's outer surface,

wherein the application of heat energy to any of said plurality of working chambers will cause expansion of said working fluid, increasing the bias of said working chamber's corresponding piston against said non-rotating element and inducing said structure to rotate to reduce said bias.

2. The heat engine of claim 1 further comprising a heat source, said heat source being generally fixed in position relative to said non-rotating element for heating said working fluid in at least one of said plurality of working chambers.

3. The heat engine of claim 1 wherein said plurality of pistons is an even number and each of said plurality of pistons is directly opposed to another of said plurality of pistons.

4. A heat engine for converting thermal energy into kinetic energy, comprising:
a fixed ring, having a first axis at its center and having a substantially smooth inner surface;
an element, positioned within said fixed ring and rotating about a second axis, said second axis offset from and parallel with said first axis and said second axis fixed in position relative to said first axis;
a plurality of working chambers positioned about the perimeter of said element, each of said plurality of working chambers containing substantially equal amounts of working fluid;
a plurality of cylinders, each of said plurality of cylinders in fluid communication with said plurality of working chambers and each of said plurality of cylinders radially positioned about said second axis;
a plurality of pistons, each of said plurality of pistons comprising a working end and a rolling end, each working end of said plurality of pistons in mechanical communication with one of said plurality of cylinders and each rolling end of said plurality of pistons biased against said fixed ring's inner surface,
wherein the application of heat energy to any of said plurality of working chambers will cause expansion of said working fluid, increasing the bias of said working chamber's corresponding piston against said fixed ring's inner surface and inducing said element to rotate to reduce said bias.

5. The heat engine of claim 4 further comprising a heat source, said heat source being generally fixed in position relative to said fixed ring for heating said working fluid in at least one of said plurality of working chambers.

6. The heat engine of claim 4 said plurality of pistons is an even number and each of said plurality of pistons is directly opposed to another of said plurality of pistons.